



# **I. T. Accessibility Toolkit**

## **Basics of Captioning for the Deaf and Hard of Hearing**

Version 1.0

## Basics of Captioning for the Deaf and Hard of Hearing

Closed captioning is an assistive technology designed to provide access to television for persons with hearing disabilities by displaying text on the television screen that describes the audio or sound portion of a program. Captions allow viewers to follow the dialogue and the action of a program simultaneously. They can also provide information about who is speaking or about sound effects that may be important to understanding a news story, a political event, or the plot of a program.

Captions are created from the transcript of a program. A *Captioner* separates the dialogue into captions and makes sure the words appear in sync with the audio they describe. A specially designed computer software program encodes the captioning information and combines it with the audio and video to create a new master tape or digital file of the program. Closed captioning is embedded in the television signal and becomes visible when you use a special decoder, either as a separate appliance or built into a television set.

Some shows are captioned in real time, i.e., during a live broadcast of a special event or of a news program. The captions appear just a few seconds behind the action to show what is being said. A *Stenographer* listens to the broadcast and types the words into a special computer program that adds the captions to the television signal.

Although closed captioning provides a critical link to news, entertainment, and information for individuals who are deaf and hard-of-hearing, closed captioning is not limited to those with hearing disabilities. For example, for individuals whose native language is not English, English language captions improve comprehension and fluency. Captions also help improve literacy skills.

In 1993, the Federal Communications Commission (FCC) required all analog television sets with screens 13 inches or larger sold or manufactured in the United States to contain built-in decoder circuitry to display closed captioning. In 1996, Congress required video program distributors (cable operators, broadcasters, satellite distributors and other multi-channel video programming distributors) to close caption their television programs. Pursuant to this requirement, the FCC in 1997 set a transition schedule requiring distributors to provide an increasing amount of captioned programming. By 2002, the FCC also required that digital television (DTV) receivers include closed captioning display capability.

Closed Captioning is not the same as Subtitles. Subtitles are intended for hearing audiences and captions for deaf and hard-of-hearing audiences. Subtitles may translate the dialog into a different language, but rarely show all of the audio. For example, captions show sound effects while subtitles do not.

Video distributed on the World Wide Web can and should be captioned. Commonwealth of Virginia agencies must now caption their video and web information, as required by the Virginia Web Site Standard (GOV 106-00). Guidelines developed by the Web Accessibility Initiative (WAI) are widely used and have been endorsed by the Federal Communications Commission. These guidelines explain how to caption video on the Web and/or offer text transcriptions.

Captions allow Web audio and video to be perceivable to those who do not have access to audio, and understandable to a wider audience. Section 508 [1194.22 (b)], which is a part of the Virginia Web Site Standard, states that, "Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation."

Captions should be:

1. **Synchronized:** the text content should appear at approximately the same time that audio would be available

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2. **Equivalent:** content provided in captions should be equivalent to that of the spoken word
3. **Accessible:** caption content should be readily accessible and available to those who need it.

On the Web, synchronized, equivalent captions should be provided any time audio content is present. This applies to the use of audio and video played through multimedia players including, but not limited to, Quicktime, RealPlayer, or Windows Media Player. In addition, this can also pertain to such technologies as Flash, Shockwave, or Java when audio content is a part of the multimedia presentation.

### Closed Captioning Resources

National Captioning Institute  
[www.ncicap.org](http://www.ncicap.org)

WGBH in Boston  
<http://ncam.wgbh.org/dtv/basics/captioning.html>

NTID  
<http://www.rit.edu/~itvcaps/basics.htm>

Captioning Web  
<http://www.captions.org/>

Gary Robson  
<http://www.robson.org/capfaq>

FCC  
<http://www.fcc.gov/cgb/consumerfacts/closedcaption.html>

National Association of the Deaf  
<http://www.nad.org/site/pp.asp?c=foINKQMBF&b=176430>

WebAim  
<http://www.webaim.org/techniques/captions/>